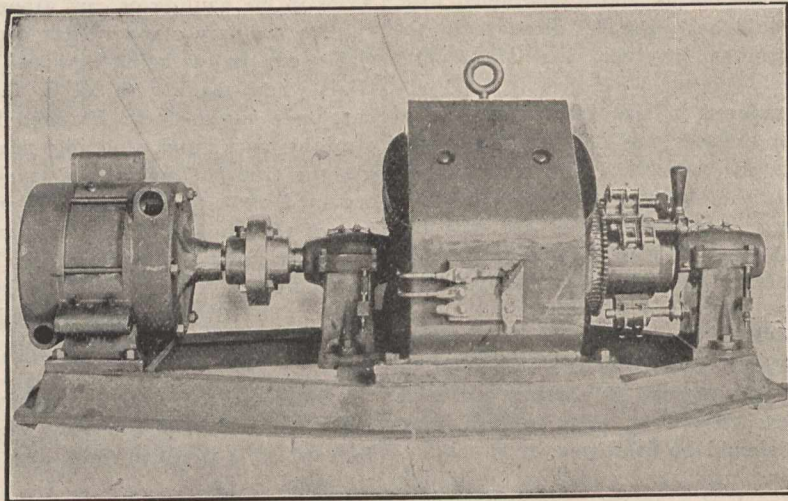


### THE EVANS ROTARY ENGINE.

The name of the Rotary Engine is legion. More patents have been granted for engines of this class than for any other article, with the exception, perhaps of the lock-nut. Mr. Evans, who is the inventor of the engine herein described, has been about fifteen years in bringing his engine up to the present standard, and now claims that he has an economical and commercially satisfactory rotary engine.

The working parts within the cylinder consist of the crank shaft which is built up, to allow of easily removing the working parts; the rolling piston journaled upon the crank pin and revolving upon the pin, with the outer circumference rolling in contact with the wall of the cylinder. Three division walls separate the cylinder into three 120-degree compartments, each of which has a separate steam entry and exhaust port. These ports are similar, each being on alternate sides. The dividing walls are supported on both sides for

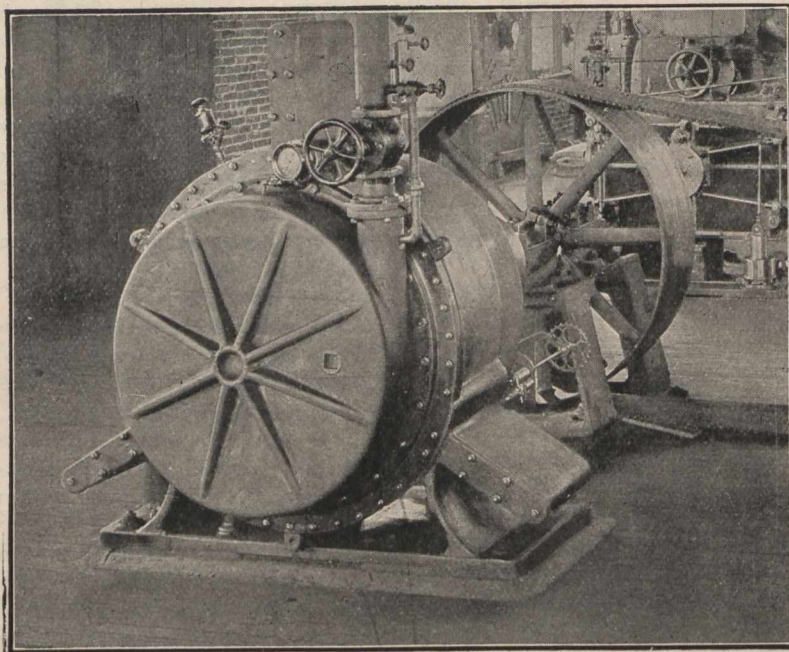


**Twenty-five Horse-power Directly Connected to Electric Generator.**

The engine is not an experimental machine by any means, and has been running for many months in actual practice. Its design and construction are such that it is steam tight under every possible condition. Its mechanism for steam taking, cut off, expansion and exhaust works with absolute and unvarying precision. Its arrangement is very simple, and it is very compact.

The steam chests are bolted to the cylinder on either side, so that the engine may run either way, taking steam from

their whole length by the grooves in the cylinder heads and also by the whole width of the pockets, one-third of the length of the slides always remaining within the pockets. A rocking shoe is provided at the inner end of each slide, which maintains a steam tight joint between the circumference of the rolling piston and the inner end of its division wall. A balance plate of ordinary construction is used on the steam side of the division walls, to maintain tight pockets for the slides. The outer ends of pockets are cored to form



**Five Hundred Horse-power Engine.**

one side and exhausting on the other, the necessary difference in size of steam valve openings being easily and simply adjusted when changing from one to the other.

The steam valve consists of two parts, the disc and a sliding annular plate containing the same number of openings as the disc upon which it is carried, and adapted to be automatically rotated by a governor, or to remain constantly at a predetermined angle of cut-off as desired. In the latter case the cut-off may be varied while the engine is in motion ranging from the full opening of 120 degrees, to a point where all but two of the openings are closed.

pneumatic chambers to receive and return the divisions, the pressure of air being calculated to receive and overcome the momentum of the slides and return them without undue force.

The piston is a disc of cast iron, bored to receive the crank pin and covered by two thin annular shells serrated in the centre of their circumference so as to move out against the cylinder heads without allowing steam to leak under the ends of the division walls or slides. They are turned down over the sides of the piston, so as to carry the grooves for the shoes of the slides, and are fastened to the piston by flat